dwindling away every day, is indeed very diſcouraging: whereas, on the contrary, I do not balance one moment to declare it, as my fixt perſuaſion, that we can ſpare 100,000 briſk young fellows, and ſtill be the moſt populous flouriſhing nation in Europe.

I am,

Reverend Sir,

Your affectionate Brother,

and very humble Servant,

Richard Forſter.

LVIII. *A Letter to the Right Honourable the Earl of* Macclesfield, *Preſident of the* Royal Society, *from the Rev.* William Brakenridge, *D.D. F.R.S. containing an Anſwer to the Account of the Numbers and Increaſe of the People of England, by the Rev. Mr.* Forſter.

My Lord,

Read Mar. 16, 1758.

AS I endeavoured, at a former meeting of the Society, to anſwer extempore ſome objections offered by a Gentleman in the country, to what I have wrote concerning the number of people in England; I now preſume to ſend you what I ſaid then in writing, with ſome farther reflections. And this ſubject I never intended to

The Royal Society is collaborating with JSTOR to digitize, preserve, and extend access to *Philosophical Transactions (1683-1775).* www.jstor.org

have meddled with any more; but as I ſeem to be called upon, to defend what I have formerly wrote, I hope I ſhall be excuſed if I briefly attempt it. Your Lordſhip, I know, and our illuſtrious Body only deſire a fair repreſentation of facts, which is the ground of all philoſophical inquiries; and therefore I ſhall endeavour to do this, as far as I can, without regarding any hypotheſis.

My deſign, when I firſt entered on this ſubject, was to diſcover whether our people were in an increaſing or decreaſing ſtate, with regard to their numbers; which I thought of great importance to be known, becauſe of its influence on the affairs of Government, in determining our ſtrength, in ſettling of taxes, and directing us in the œconomy and imployment of our people. Now, in order to proceed in this inquiry, it was evident to me, that if the number of houſes were exactly known, the number of people would be nearly aſcertained. And therefore I attended to this, to find out the number of houſes, as the only thing that could with any certainty help us to judge of this matter. And accordingly, being reſolved to depend only upon the moſt ſure, and general obſervations, I applied to a public office, where I thought I might poſſibly get at their number. And I there found, that from the laſt ſurvey that was made, ſince the year 1750, there were 690,700 houſes in England and Wales that paid the window-tax, and the two-ſhilling duty on houſes; beſides cottages that paid nothing. By cottages are underſtood thoſe who neither pay to church or poor, and are, by act of parliament in 1747, in conſideration of the poverty of the people, declared to be exempted both from the

tax

tax and the two-ſhillings duty; and they only remain not accurately known, to aſcertain the whole number of houſes. However, they are ſo far known, that from all the accounts that are hitherto given in, they do not appear to be ſo many as 300,000; and from what I myſelf have ſeen, in the books of that office, I ſhould think they were not much above 200,000; for in ſome places, that I was perfectly acquainted with, I found many of the day labourers rated to the two-ſhillings duty, and there did not appear to be one houſe in ten omitted. And therefore, if there are not 300,000 cottages, as ſeems plain to me, there cannot be a million of houſes in the whole in England and Wales; and the rated houſes are to the cottages more than two to one; of both which, according to the returns made, there is now about one in ſeventeen or 58,800 empty throughout the kingdom. But if we were to allow, that there are a million of houſes in the whole; which is more than the Gentlemen in the above mentioned office believe, and then deduct thoſe that are empty, there could not be above 941,200 inhabited houſes; and conſequently ſuppoſing ſix to a houſe, about 5,647,200 people, or near about five millions and an half; which at the utmoſt, is what I inſiſt on to be the real number.

But now the Gentleman, who objects to my calculations, thinks, that I have made the number of houſes too few, and that in the whole there are above 1,400,000 houſes, of which he imagines there are more than 700,000 cottages; for he ſuppoſes them to be more than the rated houſes; and from thence he infers, that there are about ſeven millions and an half of people, in England and Wales; which I wiſh, with all

my heart, was the true number: But I am ſo far from thinking that I have under-rated them, that I ſuſpect I have rather made them more than they are. However, this controverſy will ſoon be determined, there being now orders given, as I am informed, to all the Officers concerned in the window-tax, to make an exact return of all the cottages, as well as the rated houſes, in each of their ſeveral diſtricts. In the mean time, the Gentleman and I differ in this, that he ſuppoſes above 400,000 cottages more than I can poſſibly imagine.

Let us now ſee upon what grounds, and by what method of reaſoning he determines his numbers. He makes a diviſion of the 690,000 taxed houſes into three claſſes, placing 200,000 of them in the open country and villages, and 200,000 in the market and inferior towns, and the next, *viz.* 290,000, in the the cities and great towns; for which diviſion he has nothing to direct him; no proof, nor even probability. And as it is a mere arbitrary ſuppoſition, all reaſoning and calculations founded upon it are nothing to the purpoſe, and the number of houſes or people comptued from thence muſt be falſe or uncertain. But yet, upon this ſuppoſition, as if it was abſolutely certain, he goes on to compute the houſes and people in each diviſion.

As to the firſt, he ſays he has counted all the houſes in nine contiguous pariſhes in Berkſhire, in which he has found the whole number to be 588, and thoſe charged to the duty to be only 177; and therefore the cottages are to the rated houſes as 411 to 177, or above two to one. And from this he aſſumes, that the whole number of houſes thro' the villages and open country in England will be

be to the cottages nearly in the ſame proportion. But here I am ſurpriſed, that he ſhould reaſon in ſo looſe and an inaccurate a manner. For, as there may be 7000 pariſhes in the villages and open country, to infer from the numbers in nine of them that are contiguous, and that all of them together do not make a very large pariſh, many being much larger as to the number of houſes, and where there may be particular circumſtances; I ſay, to infer from them what the proportion will be in all pariſhes, in the villages and open country, is the ſame way of reaſoning as to ſay, becauſe the poor in one pariſh are in ſuch a proportion, therefore they are ſo in 1000 pariſhes, or thro' four or five counties: whereas it is plain, that the proportion differs almoſt in every pariſh, and in every county; and the ſum of all muſt be added together, before we can know what the real proportion is. And nothing can be inferred from the circumſtances of a few pariſhes, or even of a County, what the proportion will be in the whole. And yet, from ſuch precarious and vague reaſoning he preſumes to compute, that there are above 460,000 cottages in the villages and open country; having aſſumed, without any heſitation, that there are 200,000 rated houſes in that extent. Such reaſoning is unuſual in philoſophcal inquiries.

In like manner the Gentleman reaſons very inaccurately about his ſecond diviſion, containing the leſſer market and country towns, having ſuppoſed in them 200,000 taxed houſes: For from one inſtance of the market town of Langborne, having found the whole number of houſes to be to the cottages as 445 to 229, or the rated houſes to the cottages as 216 to 229, he ſuppoſes the like proportion in all the market

ket towns. That is, tho' there be perhaps above 300 market towns in England, he ſuppoſes each of them has the ſame proportion of the poor in it as the ſingle town of Langborne; which is unreaſonable to imagine. For every one of them may have a different proportion, according to the various circumſtances of their trade and ſituation. But yet from this ſtrange and uncertain way of reaſoning, without any induction, and from one inſtance among 300 caſes at leaſt, he concludes by proportion, that there are 388,646 houſes in the country market towns, of which there are 188,646 cottages, beſides thoſe in the cities and great towns.

In the next place, as to his third claſs, the cities and great towns, he allows, that my proportion may be among them, *viz.* that the rated houſes are to the cottages as 690,000 to 200,000, or 69 to 20: For he thinks, that it cannot be any-where but in the moſt flouriſhing places. And therefore, as he has arbitrarily placed 260,000 taxed houſes in them, he computes that they muſt contain 84,058 cottages. But he has given no proof, that my proportion is only in the moſt flouriſhing places, beſides theſe few inſtances that he has produced; which are nothing to form any general concluſion upon. For if we were to be directed by a few caſes, we might think that there were much fewer cottages than I have allowed. There are ſome pariſhes, in which there are none at all. In the great pariſhes of St. James's and St George's Weſtminſter, in which there are about 7000 houſes, there are none: in the country pariſh of Chiſelherſt in Kent, where there are above 100 houſes, there are but three: and in many pariſhes there is not one in 20. So that from particular inſtances, there is nothing

to be concluded. But in all Middleſex, London, Weſtminſter, and Southwark included, in which the poor are as numerous as in moſt places in the kingdom, becauſe of the numbers of labouring people that flock hither for imployment, there is nearly the ſame proportion that I have aſſigned. For from a late ſurvey in that diſtrict, as I am informed, there are 87,614 houſes in the whole, and of theſe 19,324 cottages, and 4810 empty. Which indeed ſhews, that we are not ſo populous, in and near the metropolis, as is commonly ſuppoſed, and much leſs than I had calculated in my firſt letter: For from this account, if it be true, there are not above 530,000 people in that compaſs; of which, within the bills of mortality, there die about 25,000 yearly; that is, not leſs than one in 20.

As to what the Gentleman mentions concerning the militia, he ſeems to be much miſtaken. For if the proportion be as he ſays, that one in 45 is levied, this directly proves the number of people in England and Wales to be about five millions and an half, according to my calculation; becauſe the electors or balloters are the fencible men, or thoſe able to carry arms. And if the whole levy be 32,000, then 45 multiplied by 32,000 will give 1,440,000 for all the fencible men in England. But Dr. Halley has clearly ſhewn, that the fencible men are one quarter of the whole people, children included; and therefore, four times 1,440,000, or 5,760,000, will be the whole number of the people; which is nearly what I have made them.

And thus, having ſeen how he has eſtabliſhed his numbers in oppoſition to me, let us now, in the next place,

place, conſider what he has ſaid with regard to the increaſe of our people. He ſays, whether the kingdom is really in a declining or increaſing ſtate, is a problem not to be ſolved by calculation: And yet he himſelf can gueſs by appearances, that it has greatly increaſed within theſe 40 years. But, by his good leave I muſt tell him, that it is a problem in political arithmetic to be ſolved from ſome *data*, as well as others. If the number of people be nearly found, and the general proportion of births to burials, at an average, thro' the kingdom be known, with the annual loſſes of our fencible men, at a moderate computation; from theſe *data*, I ſay, any one, who underſtands numbers, will eaſily determine whether we are increaſing or decreaſing. And accordingly, I have ſhewn, that the annual increment of our fencible men is not much above 8000, which number is conſumed by our annual loſſes; and therefore we are not in an increaſing ſtate. For the whole number of people muſt always be in proportion to the fencible men; ſo that, if there is no increaſe of them, there can be none upon the whole.

It is true, I am the firſt who ventured upon a ſolution of this queſtion; but when I conſider what I have done, I cannot ſee but that the principles upon which I reaſoned are right. The *data* are, I think, exact enough to diſcover our ſtate. And Dr. Halley's rule to compute the fencible men, where our loſſes are to be reckoned, is undoubtedly true. So that if there is any difficulty, it is in fixing the general proportion between births and burials, thro' the kingdom, *viz.* 112 to 100; which I have taken from Dr. Derham, who had collected many obſervations; being a greater

a greater proportion than Sir William Petty allowed. And which if it is thought too ſmall, it is to be conſidered, that within the bills of mortality the births are much under the burials as 4 to 5; and in ſome of the great towns there are fewer births than burials, and in others they are nearly equal; ſo that theſe reduce the proportion that ariſes from the villages and open country.

But if we were to make a calculation from the births and burials, only in the villages and open country; which Dr. Derham has found to be at an average as 117 to 100, or nearly as 7 to 6; and ſuppoſe this to obtain all over Britain and Ireland, in the towns as well as the country, which is ſurely more than the truth; we ſhall then find, that the annual increment cannot be more than 9000 fencible men; which corroborates my former eſtimate. For, to compute it by the principles I have formerly endeavoured to eſtabliſh; let the number of our people in Britain and Ireland be eight millions and an half, that is, five and an half in England and three millions in Scotland and Ireland; becauſe ſome Iriſh Gentlemen have aſſured me, from ſome facts, that there is half a million more in their country than I formerly allowed; for I did not pretend to calculate them; and then the annual number of the dead, in Britain and Ireland, being one in 40, will be about 212,500; which will be to the births as, 100 to 117: And therefore the births muſt be 248,625, and the increaſe 36,125; of which the fourth part is about 9000 for the fencible men, which I am perſuaded is more than the real number.

Now let any one compute our loſſes in the moderate way that I have done, and he will eaſily ſee, that

they cannot be leſs than this number; and conſequently we are far from increaſing. And indeed it is evident from the number of empty houſes thro' the kingdom, mentioned above, *viz.* one in ſeventeen, or 58,000, and one in twelve of thoſe that are taxed within the bills of mortality. For it is impoſſible, if we were increaſing, that there could be ſo many empty; And therefore the appearance of ſo much building is only the effect of our luxury, requiring larger, more convenient, and more elegant houſes, and not cauſed by our increaſe.

However, the Gentleman objects to all this, and ſays, that he has examined the Regiſters of ſome neighbouring pariſhes, and particularly of three that are perfect; and he finds, that the burials are to the baptiſms as 83 to 149; which may poſſibly be the caſe, as I myſelf have known it in one pariſh in the Iſle of Wight, where the place is healthy, and people generally marry. But does he imagine that this proportion is general all over England? If ſo, we ſhould increaſe in a rapid manner indeed! for then we ſhould double our people in 35 years, if it were not for our loſſes; which no reaſonable man will venture to ſay. He does not reflect, that in many country places, from their bad ſituation, there is very little increaſe, and in ſome towns none at all, and in others a decreaſe, continually ſupplied from the neighbouring country. Within the bills of mortality there are annually 5000 burials more than the births; and conſequently, to maintain our numbers here, there muſt be a yearly ſupply of 5000; which deſtroys the whole increaſe of ſix or ſeven counties. And Dr. Derham found, from the accounts he had of country pariſhes, that

that in general among them the proportion of births to burials was not greater than 117 to 100, as we mentioned above; ſo that nothing can be concluded from particular healthy places. The queſtion is, what is the reſult upon the whole thro' the kingdom? what is the general proportion of the births to burials, from which the increaſe is to be eſtimated? and which Sir William Petty ſays is 111 to 100, and Dr. Derham as 112 to 100. See if he can diſprove theſe numbers by putting together all the different accounts from every corner, among the towns as well as the country; and if he cannot, to argue only from a few inſtances is nothing to the purpoſe; for where there there is a multitude of different caſes, they muſt all be conſidered, to arrive at the general truth. But even in the particulars he mentions, he has not completed his argument; for, to make it concluſive, he ſhould have ſhewn, that, within theſe laſt forty years, the time, he thinks, of our great increaſe, in thoſe pariſhes the number of houſes or people were increaſed, in proportion almoſt as the births were above the burials, as 149 to 83: and if that cannot be made to appear, it is plain, that, for all he has ſaid, the annual increaſe may be conſtantly conſumed by our loſſes.

And now the worthy Gentleman having endeavoured to ſhew, from the caſe of a few pariſhes in the country, that we are in an increaſing ſtate, he proceeds to give me his ſerious advice in two particulars:

Firſt, That I would reconſider a propoſition advanced by me, That all reaſonable ways of increaſing our people, even to the naturalizing of foreigners,

would be for the public welfare. In anſwer to which kind admonition I muſt ſay, that I have often conſiderd the thing, as far as I can; and I think this may be eaſily ſhewn againſt any political writer, That it is the intereſt of a government, when they have powerful and dangerous neighbours, to increaſe their people by all reaſonable means, even to the inviting of foreigners, ſo far as the natural produce of the country can ſuſtain them; and that it is the fault or weakneſs of an adminiſtration not to be able to employ them. And in Britain, where they can have the aſſiſtance of the produce of ſo many large and fruitful countries of their own in America, I will venture to ſay, that it is an error in their policy, not to endeavour to increaſe their people; by which they might be more formidable, and perhaps ſtronger than their grand Enemy. The preſent King of Pruſſia has ſhewn the utility of this within his dominions; by which he has been enabled to make ſuch a figure in Europe.

The *ſecond* thing he admoniſhes me to reconſider is, That I have ſuppoſed our commerce to be one cauſe of the loſs of our fencible men. And who in the world doubts of it, but himſelf! Do ſhipwrecks, the diſaſters and inclemency of the ſea, the ſcurvy, *&c.* beget people? But he will ſay, without theſe we could not have trade, which employs great numbers of our people; and therefore, what we loſe, we may gain another way. And juſt ſo he may ſay of our wars, that occaſion the deſtruction of ſo many of our people, that they are no loſs to us; for we gain by them in their conſequences, in ſecuring of our liberties and property, and by which

our

our trade is preſerved and promoted. But notwithſtanding this, can it be ſaid, that war does not diminiſh our fencible men! The truth is, trade increaſes riches, and gives more of the conveniencies of life, and brings luxury along with it; but it does not neceſſarily breed people: For we ſee in thoſe countries where they have little trade, the people increaſe much faſter than they do with us, as appears from the Bills of mortality in Pruſſia; where the general proportion of the births to the burials is greater than it is here, *viz.* 4 to 3; and by which the people might double in 84 years, if it were not for their loſſes. (*Vid. Phil. Tranſ. vol.* xxxvi.) Which great increaſe, by the way, eaſily accounts for thoſe vaſt ſwarms of people that came from thence and the adjacent countries in former ages, and over run all Europe. And therefore it is not ſo terrible a paradox, as he imagines, that poſſibly where there is much leſs trade the people may increaſe faſter; for luxury and other vices, that come with trade, do not promote an increaſe.

And now, as he has been ſo good as to give me his advice, I will return the favour, and deſire him to reconſider the method of reaſoning by induction; which may poſſibly help him to eſcape ſome paralogiſms, in arguing upon theſe ſubjects. And I would likewiſe recommend it to him to inquire diligently, whether the number of our houſes in England be increaſed theſe laſt ſixty years; which, according to his reaſoning, ought at leaſt to be doubled: For if there is no increaſe of the houſes, there can be none of the people.

To conclude: He adds, that my doctrine, from beginning

beginning to end, to ſay the beſt of it, is ill-timed, when we are contending with our hereditary enemy, *pro aris & focis.* But here his zeal hurries him on, that he does not look to the dates of my Letters. For the firſt three were read before the Society, and ordered to be printed, long before the war was proclaimed; and as for the laſt, it is only a ſupplement to the reſt; in which I have ſhewn, that France, by the bad œconomy of her people, is not in an increaſing ſtate; which, I think, is a comfortable hearing. But ſuppoſing they had been all printed during the war: What then? Is a fact to be concealed that, if diſcovered, may be uſeful to prevent errors in government, and rectify our notions of the œconomy of our people? What advantage can our enemies make of ſuch a diſcovery? Will it encourage them to imagine that we ſhall be eaſier ſubdued, when they know, by the moſt moderate computation, we have at leaſt two millions of fencible men in our Britiſh iſlands. Enough, ſurely, to reſiſt them in all their attempts! But I doubt we are not ſo deficient in our numbers as in public virtue, without which the greateſt multitude may be eaſily overcome.

And thus, my Lord, I have endeavoured to anſwer what this Gentleman has wrote in his ſecond Letter; for I paſs over the firſt, as it does not ſeem to contain any more in oppoſition to me, than what I have here conſidered. And upon the whole I cannot ſee, that he has ſaid any thing to invalidate what I have formerly advanced. If I could diſcover it, I ſhould be very ready to acknowlege my error.

I am ſenſible I have made this reply too long; but I truſt your uſual benevolence to all our worthy Members will excuſe me, who ſhall always eſteem it an honour to be,

My Lord,

Your Lordſhip's

Moſt obedient

and faithful Servant,

Wm. Brakenridge.

Sion-College,
March 16. 1758.

END of PART I. VOL. L.